

**WHAT IS CLAIMED IS:**

1. An apparatus for providing automatic gain control for use in a satellite terminal of a satellite communication system, said satellite communication system capable of transmitting a plurality of different modes of data, said apparatus comprising:

a demodulator circuit having an analog to digital converter;  
a first variable attenuator having an attenuation value set on the basis of a measured power level of a predetermined data signal; and

a second variable attenuator having an attenuation value set on the basis of the mode of data being received by said satellite terminal, each of said data modes having a corresponding predetermined attenuation value associated therewith which is utilized as the attenuation value of said second variable attenuator when said satellite terminal receives said data mode.

2. The apparatus of claim 1, wherein said first variable attenuator and said second variable attenuator are operative for maintaining the input power level to said analog to digital converter within a predetermined range.

3. The apparatus of claim 1, wherein said first variable attenuator comprises a variable gain amplifier, said variable gain amplifier having an input control signal representing the measured power level of said predetermined data signal, said input control signal being updated such that said variable gain amplifier compensates for variations in the power level of said predetermined data signal over time.

4. The apparatus of claim 3, wherein said input control signal comprises a modulated signal which is continuously fed to said variable gain amplifier, said modulated signal being generated by a circuit operative for tracking changes in the power level of said predetermined data signal during operation of said satellite terminal.

5. The apparatus of claim 1, wherein said second variable attenuator comprises a programmable gain amplifier, said programmable gain amplifier be programmed to the

predetermined attenuation value corresponding to the data mode of the data being processed by said demodulator.

6. The apparatus of claim 5, wherein said data mode of the data to be received by the demodulator is known *a priori* such that said programmable gain amplifier can be programmed to the predetermined attenuation value corresponding to the given data mode prior to said demodulator processing such data.

(7) A method for providing automatic gain control for use in a satellite terminal of a satellite communication system, said satellite communication system capable of transmitting a plurality of different modes of data, said method comprising the steps of:

measuring a power level of a predetermined data signal received by said satellite terminal,

adjusting an attenuation value of a first variable attenuator on the basis of said measured power level of said predetermined data signal,

adjusting an attenuation value of a second variable attenuator on the basis of the mode of data being received by said satellite terminal, each of said data modes having a corresponding predetermined attenuation value associated therewith which is utilized as the attenuation value of said second variable attenuator when said satellite terminal receives said data mode,

wherein said first variable attenuator and said second variable attenuator are operative for maintaining the input power level to an analog to digital converter contained in a demodulator of said satellite terminal within a predetermined range.

8. The method of claim 7, wherein said first variable attenuator comprises a variable gain amplifier, said variable gain amplifier having an input control signal representing the measured power level of said predetermined data signal, said input control signal being updated such that said variable gain amplifier compensates for variations in the power level of said predetermined data signal over time.

9. The method of claim 8, wherein said input control signal comprises a modulated signal which is continuously fed to said variable gain amplifier, said

modulated signal being generated by a circuit operative for tracking changes in the power level of said predetermined data signal during operation of said satellite terminal.

10. The method of claim 7, wherein said second variable attenuator comprises a programmable gain amplifier, said programmable gain amplifier be programmed to the predetermined attenuation value corresponding to the data mode of the data being processed by said demodulator.

11. The method of claim 10, wherein said data mode of the data to be received by the demodulator is known *a priori* such that said programmable gain amplifier can be programmed to the predetermined attenuation value corresponding to the given data mode prior to said demodulator processing such data.

12. An apparatus for providing automatic gain control for use in a satellite terminal of a satellite communication system, said satellite communication system capable of transmitting a plurality of different modes of data, said apparatus comprising:  
means for measuring a power level of a predetermined data signal received by said satellite terminal,

means for adjusting an attenuation value of a first variable attenuator on the basis of said measured power level of said predetermined data signal,  
means for adjusting an attenuation value of a second variable attenuator on the basis of the mode of data being received by said satellite terminal, each of said data modes having a corresponding predetermined attenuation value associated therewith which is utilized as the attenuation value of said second variable attenuator when said satellite terminal receives said data mode,

wherein said first variable attenuator and said second variable attenuator are operative for maintaining the input power level to an analog to digital converter contained in a demodulator of said satellite terminal within a predetermined range.

13. The apparatus of claim 12, wherein said first variable attenuator comprises a variable gain amplifier, said variable gain amplifier having an input control signal representing the measured power level of said predetermined data signal, said input

control signal being updated such that said variable gain amplifier compensates for variations in the power level of said predetermined data signal over time.

14. The apparatus of claim 13, wherein said input control signal comprises a modulated signal which is continuously fed to said variable gain amplifier, said modulated signal being generated by a circuit operative for tracking changes in the power level of said predetermined data signal during operation of said satellite terminal.

15. The apparatus of claim 12, wherein said second variable attenuator comprises a programmable gain amplifier, said programmable gain amplifier be programmed to the predetermined attenuation value corresponding to the data mode of the data being processed by said demodulator.

16. The apparatus of claim 15, wherein said data mode of the data to be received by the demodulator is known *a priori* such that said programmable gain amplifier can be programmed to the predetermined attenuation value corresponding to the given data mode prior to said demodulator processing such data.

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